DOCUMENT RESUME

ED 319 382 IR 014 400

AUTHOR Hobbs, Vicki M.; Osburn, Donald E.
TITLE Distance Learning Evaluation Study, Phase I. A Study of North Dakota and Missouri Schools Implementing German I by Satellite. Descriptive Statistical Report.
INSTITUTION Mid-Continent Regional Educational Lab., Inc., Denver, Colo.
PUB DATE 88
NOTE 54p.; For Phase II, see ED 317 195.
PUB TYPE Statistical Data (110) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Achievement; Administrator Attitudes; Communications Satellites; Comparative Analysis; *Computer Assisted Instruction; Cost Effectiveness; *Distance Education; Parent Attitudes; Program Evaluation; *Program Implementation; Questionnaires; *Rural Schools; School Surveys; Secondary Education; Second Language Instruction; Student Attitudes; Tables (Data)
IDENTIFIERS *German By Satellite; Oklahoma State University

ABSTRACT

This report is a preliminary analysis of data provided by the 7 North Dakota and 14 Missouri schools involved in the German I by Satellite Program during the 1987-88 school year. In May 1988 each of the 21 schools participated in the first phase of a comprehensive distance learning study, the purpose of which was to identify the factors associated with program success or failure. Questionnaires mailed to each district included those for: (1) the administrator responsible for initiating the program in the school; (2) the program coordinator; (3) each student enrolled in German I by Satellite; and (4) a parent of each enrolled student. In addition, students were given a standardized German test to be used as a relative measure of achievement against which input variables could then be measured. The report is intended to provide initial feedback to participating schools and other interested agencies and organizations. Data are presented in both narrative and tabular form throughout the report. (GL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED319382

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

DESCRIPTIVE STATISTICAL REPORT

DISTANCE LEARNING EVALUATION STUDY PHASE I

A STUDY OF NORTH DAKOTA AND MISSOURI SCHOOLS IMPLEMENTING GERMAN I BY SATELLITE

A Study Financed in Part by

Mid-Continent Regional Education Laboratory
Denver, Colorado

Vicki M. Hobbs
Educational Consultant
Mid-Continent Regional Education Laboratory

Donald E. Osburn
Professor, Agricultural Economics & Educatio
University of Missouri-Columbia

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Toni Haas

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR014400

DISTANCE LEARNING EVALUATION STUDY
PHASE I

A DESCRIPTIVE STATISTICAL REPORT

INTRODUCTION

The following is a preliminary analysis of data provided by the seven North Dakota and fourteen Missouri schools involved in the German I by Satellite Program during the 1987-88 school year. In May 1988 each of the 21 schools participated in the first phase of a comprehensive Distance Learning Study, the purpose of which was to identify the factors associated with program success (or failure). Questionnaire forms mailed to each district included those for: 1) the Administrator responsible for initiating the program in the school; 2) the Program Coordinator; 3) each student enrolled in German I by Satellite; and 4) the parent of each enrolled student. In addition, students were given a standardized German test to be used as a relative measure of achievement against which input variables could then be measured.

This preliminary, descriptive report summarizes the data collected through each questionnaire. Its intent is to provide initial feedback to participating schools and other interested agencies and organizations. A Final Report will further analyze the key issues centered around instruction by Satellite as a method of distance learning, including:

- Course implementation procedures as they differ among schools
- An analysis of differential course input variables as predictors of student success
- The extent of instructional software usage as a predictor of student achievement
- The differential costs involved in course implementation among participating districts
- An analysis of the cost effectiveness of instruction by Satellite courses as implemented in Missouri and North Dakota
- The implications for the role of Course Coordinator

- A comparison of Missouri and North Dakota as they differ with respect to course implementation, student achievement, and student and parent attitudes about the course
- A comparison of coordinator and student perceptions of coordinator duties
- A comparison of live vs. taped instruction as measured by student achievement and student and parent attitudes
- Implications for the future of Instruction by Satellite
- Recommendations to schools considering adoption of Instruction by Satellite courses

PRELIMINARY FINDINGS--ADMINISTRATOR QUESTIONNAIRE

Twenty of the twenty-one administrator questionnaires were returned for a return rate of 95%. Their responses are detailed below:

Of obvious interest in the analysis of Distance Learning Programs is the reason why some schools opt for early adoption of an innovative program, leaping out in front of other districts who may or may not subsequently follow. The following table shows the reasons given for initiating an Instruction by Satellite Program in their schools.

Table 1: ADMINISTRATIVE REASONS FOR INITIATING AN INSTRUCTION BY SATELLITE PROGRAM

Reasons Given	% of Schools Responding*
GBS is the only alternative for offering a foreign language class	55%
We already offer one foreign language class, but wanted to offer a second	20%
We could not find a certified foreign language teacher	20%
We could not justify the cost of hiring a foreign language teacher	30%
We explored the possibility of jointly hiring a foreign language teacher with another district, but did not	5%
The use of technology was appealing	65%

* Multiple reasons were given by respondents, therefore totals do not equal 100%

Schools first learned about instruction by Satellite from the following sources:

Table 2: SOURCE OF INFORMATION ABOUT INSTRUCTION BY SATELLITE

Sources	% of Schools
Mayville State University (ND)	20%
Technology Conference	15%
Another district	10%
State Legislature	5%
Incentive Grant	5%
Missouri School Board Association	25%
Educational Consultant	5%
Oklahoma State University	5%
No Response	10%
	100%

Other Distance Learning Technologies considered for adoption by the participating schools were:

Table 3: OTHER DISTANCE LEARNING TECHNOLOGIES CONSIDERED

Other Technologies Considered	% of Schools*
None	35%
Interactive Television (2-way audio & video)	25%
1-way video/2-way audio instruction	20%
Videodisk instruction	30%
Audio-conferencing (audio only)	10%
Tele-teaching (audio instruction with addition of still-frame computer graphics or video pictures)	5%
Not aware of what is available	5%

* Multiple reasons were given by respondents, therefore totals do not equal 100%.

When asked to rank order the uses of satellite technology in their district, administrators overwhelmingly (80%) felt that providing high school credit courses was their top priority. The remaining 20% were evenly split between providing teacher in-service and student enrichment programming as top priorities. As a second priority administrators ranked student enrichment programming (55%) over teacher-inservice programming (40%).

Other technologies in which the 20 districts were currently involved include:

Table 4: OTHER TECHNOLOGIES IN WHICH SCHOOLS WERE CURRENTLY INVOLVED

Other Technologies	% of Districts*
Instructional TV	60%
Cable TV (educational programming)	45%
Computerized instruction (entire course)	15%
Videodisk instruction	5%
Videotaped instruction (entire course)	10%
None	15%

* Multiple reasons were given by respondents, therefore totals do not equal 100%.

The means by which schools receive the instruction by Satellite course(s) included:

Table 5: METHOD OF EQUIPMENT ACQUISITION

Method of Acquisition	% of Schools
Purchased satellite receiving equipment	80%
Leased satellite receiving equipment	20%

Current usage of satellite technology varied as follows among the participating schools:

Table 6: USAGES OF SATELLITE TECHNOLOGY

Current Usages of Satellite Technology	% of Schools
Comprehensive student credit course(s) in advanced math, science, or foreign language	100%
Instructional segments intended to supplement traditional teacher-taught courses	55%
Student enrichment viewing to which students might not otherwise have access	80%
Teacher In-Service Training	65%
MSBA In-Service	10%
Community Service	10%

*Multiple responses were possible, therefore totals do not equal 100%.

Satellite downlink capabilities were acquired by 4 schools (20%) during August-September, 1986, while 13 (55%) did not acquire the capability until August-September, 1987. Downlinks in two other schools

became operational in June and October, 1987 respectively. (One administrator did not respond to the question.) Downlinks were acquired through a variety of methods. Fourteen (70%) were purchased; four (20%) were leased; and two (10%) were donated.

Thirteen (65%) of the 20 responding administrators indicated their district had utilized grant monies in setting up the Instruction by Satellite program in their school. Seven schools (35%)--those in North Dakota--utilized Technology Grant monies in setting up their Instruction by Satellite programs; five Missouri schools (25%) utilized State Incentive Grant monies, while one (5%) utilized Chapter II (ECIA) monies.

Table 7: FINANCING OF SATELLITE EQUIPMENT

Method of Acquisition	% of Schools	Number
Purchased with school district funds	10%	2
Purchased with assistance from special state grant funds	60%	12
Dish donated by Rural Electric Cooperative/remaining equipment purchased with district funds	5%	1
Total schools purchasing equipment	75%	15
Lease agreement with an intermediate supplier	20%	4
Dish donated by Rural Electric Cooperative/lease agreement with an intermediate supplier/assistance from state funds	5%	1
Total schools leasing equipment	25%	5

Eighty percent of the districts had utilized some outside technical or consulting asistance in setting up their Instruction by Satellite program. Mayville State University assisted the seven North Dakota schools in setting up their programs; three schools (15%) hired private consultants to assist. Seventy percent of the districts were assisted by the satellite equipment dealer from whom the equipment was purchased or leased. Eighty percent of the schools reported receiving assistance from Oklahoma State University from whom the German by Satellite course originates. Two districts reported receiving assistance from their State Education Department; six schools received assistance from the Missouri School Board Association; seven schools received assistance from their local telephone company; two schools from in-house staff; and one from the Rural Electric Cooperative.

Types of assistance received included the following:

Table 8: TYPES OF CONSULTING/TECHNICAL ASSISTANCE RECEIVED

Types of Assistance	% of schools receiving assistance
Gathering information on instruction by satellite course providers	75%
Determining costs of implementing a satellite course	90%
Judging the quality of the course	65%
Determining the technical equipment necessary	90%
Determing vendor sources for satellite receiving equipment	70%
Setting up satellite dish and receiver	85%
Setting up computers	65%
Installing Voice-Based Learning System	80%
Installing cassette control devices, recorders, headphones, adaptors	70%
Learning how to use the software	70%
VCR set-up and operation	50%
Modifying/installing phone line	60%
Installing/using speaker phone	65%
Installing/using modem	55%

*Multiple responses were possible, therefore totals do not equal 100%.

Ninety-five percent (95%) of the districts reported they had insured their satellite receiving equipment--75% under an existing school insurance policy and 20% as a separate line item on school policy. (One administrator did not respond to this question.)

Thirty-five percent (35%) of the districts reported having already had technical problems with or malfunctions of the equipment. For those seven districts, assistance was sought from the following sources:

Table 9: FROM WHOM WAS REPAIR ASSISTANCE SOUGHT

	% of Districts*
Equipment dealer	15%
Mayville State University	10%
Educational Consultant	5%
MSBA	5%

* % of ALL districts, not just those with repairs needed

Asked to whom they would turn *when* equipment problems arose, 20% responded that they would first turn to their equipment dealer, 5% to Mayville State University, and 5% to MSBA. (7 administrators failed to respond to this question.)

1986-87 Instruction by Satellite Enrollment Data

Four schools reported offering a satellite course(s) during the 1986-87 school year; two offered German by Satellite, 1 offered Physics by Satellite, and one offered both German and Physics by Satellite. Within the three schools reporting German by Satellite course enrollment data for the 1986-87 school year, there were 2, 9, and 14 students enrolled respectively, with an average student completion rate of 47%.

1987-88 Instruction by Satellite Enrollment Data

By definition, each of the 21 districts were involved in German by Satellite during the 1987-88 school year, with a total of 163 first semester students enrolled. The average course completion rate for all Missouri and North Dakota students participating in German by Satellite was 63%. In addition, three schools also offered Physics by Satellite, one school offered German II by Satellite, and one school offered both Physics and German II (in addition to German I by Satellite).

Anticipated Enrollment in German by Satellite --1988-89

Thirteen (65%) of the 20 responding schools anticipated offering German I by Satellite during the 1988-89 school year. Five schools (25%) had decided not to participate and two (10%) were undecided. Of the thirteen schools anticipating continued involvement in German I by Satellite, projected enrollment ranged from 5 to 22 students with an average of 12 students per school.

Three of the seven schools who were either undecided or who had decided not to offer GBS I the following year cited as reasons that there was not enough enrollment or that they could not afford to offer both German I and German II by Satellite simultaneously. The remaining four schools did not respond.

Twelve (60%) of the of the responding schools anticipated adding additional classes by satellite during the following year--11 (55%) adding German II by Satellite, 2 (10%) adding Physics, and 2 (10%) adding Trigonometry, and 2 (10%) adding Calculus. [Note: Five schools anticipated adding multiple classes.]

Eighty-five percent (85%) of the responding schools planned additional uses for their downlink during the coming year:

Table 10: PLANNED ADDITIONAL USES OF DOWNLINK

Additional Uses	% of Schools
Student Enrichment	45%
Teacher In-Service	60%
C-SPAN	5%
Supplemental material in traditional Physics class	5%
ITV	5%
SCOLA	5%
Teleconferences	5%

*Schools may have responded in more than one category, therefore percentages do not total 100%.

Among those *not* planning additional uses of their downlink capabilities, reasons given were the cost of coordinating and the cost of additional equipment.

Restrictions Placed on Enrollment in German by Satellite

Seventy percent of the schools indicated that they placed some restrictions on who or how many students may enroll in German by Satellite. The following tables show the types of restrictions imposed:

Table 11A: TYPES OF RESTRICTIONS IMPOSED

	% of Schools*
Grade Level	70%
Ability Level	25%
Size of class	25%
No restrictions imposed	30%

* Multiple restrictions may be operative in any one district, therefore totals do not total 100%.

Table 11B: RESTRICTIONS BASED ON GRADE LEVEL

	% of Schools*
9th-12th grade students only	25%
11th-12th grade students only	25%
12th grade students only	5%
10th-11th grade students only	5%
No response	10%

* % of all schools imposing grade-level restrictions

Restrictions based on ability level included: (1) allowing only B or better English students; (2) top or highly motivated students only; or (3) students selected by a Teacher Committee.

Of the five schools who restricted enrollment based on size of class, one school required a minimum enrollment of 5 students and four schools limited enrollment to 10, 12, 15, and 20 students respectively.

Modification of School Calendar or Bell Schedule

No schools modified their school calendar because of involvement in German by Satellite, i.e., beginning school dates or vacation dates were not altered. Thirty-five percent (7) of the schools did, however, modify their bell schedule to accomodate GBS satellite times. Modifications included (1) adding a few minutes to one period; (2) changing start/end times of several or all classes; and (3) beginning the school day earlier.

Attitude of School District Personnel

The administrator was asked to assess the current attitude of each of the following regarding credit courses by satellite. Their assessments are listed below:

Table 12: Attitude of District Regarding Courses by Satellite

District Personnel	Strongly Favorable	Favor-able	Indif-ferent	Opposed	Strongly Opposed	No Resp	Total
School Board	30%	70%					100%
Superintendent	50%	50%					100%
High School Principal	40%	55%	5%				100%
High School Counselor	35%	55%	5%			5%	100%
Faculty	30%	60%	10%				100%
Course Coordinator	55%	45%					100%
Enrolled students	15%	80%	5%				100%
Non-enrolled students	5%	45%	50%				100%
Parents/Community	20%	80%					100%

Administrator Satisfaction with German by Satellite Course

Each administrator was asked to rate their satisfaction level with the German by Satellite course with respect to each of the following:

Table 13: ADMINISTRATOR SATISFACTION WITH GERMAN BY SATELLITE COURSE

Course Components	Very Satisfied	Satisfied	Unde-cided	Dissat-isfied	Very Dis-satisfied	No Resp	Total
Course as a whole	35%	55%	5%			5%	100%
Overall quality of instruction	60%	35%		5%			100%
Technical quality of course	40%	60%					100%
Cost as compared to other alternatives	25%	50%	20%	5%			100%
Level of difficulty	15%	60%	15%	10%			100%
Ease of supervision	15%	70%	10%	5%			100%
Course content	35%	55%	5%	5%			100%
Access to technical support	25%	55%	10%	10%			100%
Equipment upkeep & maintenance	35%	45%	20%				100%
Ease of equipment operation	25%	55%	20%				100%
Technical reliability of equipment	35%	50%	15%				100%
Your equipment supplier	25%	65%	5%	5%			100%
Support from OSU	50%	30%	10%	10%			100%
Support from DESE/DPI	5%	55%	20%	20%			
"Fit" with existing curriculum	25%	60%	5%	10%			100%
Amount of knowledge students are gaining	40%	40%	10%	10%			100%

Perceived Course Advantages and Disadvantages

The administrators were asked to list which of the following course characteristics they considered to be an advantage or disadvantage. The following table reports their responses:

Table 14: COURSE ADVANTAGES AND DISADVANTAGES

Course Characteristics	Advantage	Disadvantage	Neither/ No Resp
Equipment cost	30%	65%	5%
Course subscription fees	30%	60%	10%
Overall cost of course	35%	50%	15%
Ability to drop or add course from year to year	90%	5%	5%
Curriculum expansion opportunity for small schools	100%	--	--
Courses are not class-size dependent	80%	--	20%
Overall flexibility of courses	60%	30%	10%
Quality of instruction	75%	5%	20%
Level of difficulty	60%	10%	30%
Use of a video-based medium	55%	20%	25%

Each Administrator was asked to report the advantange and disadvantage they considered to be most significant. Twelve (60%) of the twenty administrators responded to the question. Their responses as a percentage of the total number of administrators are listed below:

Table 15: MOST SIGNIFICANT ADVANTAGES AND DISADVANTAGES

	% of Administrators Indicating Characteristic As:*	
Course Characteristics	Most significant Advantage	Most significant Disadvantage
Equipment cost	5%	15%
Course subscription fees	--	15%
Overall cost of course	--	5%
Ability to drop or add course from year to year	--	--
Curriculum expansion opportunity for small schools	50%	--
Courses are not class-size dependent	5%	--
Overall flexibility of courses	--	15%
Quality of instruction	--	--
Level of difficulty	--	5%
Use of a video-based medium	--	5%

* Percentages based on total number of administrators.

ACCREDITATION/ROLE OF STATE DEPARTMENTS OF EDUCATION

Administrators were asked to rank order their preference for whom they saw as being in the best position to set standards and/or accredit instruction by satellite courses:

Table 16: RANKING OF ACCREDITATION ENTITIES BY ADMINISTRATORS

Accreditation Entitites	1st	2nd	3rd	4th	5th	Average Rank
A national or regional entity, such as North Central Accreditation Agency	25%	5%	25%	15%	5%	2.6
A national or regional joint accreditation committee formed by members of various state departments of education/instruction	10%	30%	25%	10%	5%	2.6
Individual state departments of education, each for their own state	45%	30%	5%	15%	--	1.9
Individual school districts	20%	20%	15%	30%	--	2.6

Administrators were asked their opinion of which acitivities should be carried out by State Departments of Education/Public Instruction:

Table 17: ADMINISTRATOR OPINIONS ABOUT ROLE OF STATE EDUCATION AGENCY

Activities	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Providing technical assistance to school districts implementing instruction by satellite courses	20%	50%	25%	5%	--	100%
Administering technology grant funds to applicant districts	45%	50%	5%	--	--	100%
Establishing certification requirements of course coordinators	15%	65%	10%	5%	5%	100%
Accrediting providers of instruction by satellite courses	15%	75%	10%	--	--	100%
Evaluating individual instruction-by-satellite course content for accreditation purposes	10%	75%	5%	10%	--	100%
Monitoring school districts for compliance with satellite course implementation standards	5%	75%	15%	--	5%	100%
Collecting evaluation information from adopting districts in order to share with other districts	15%	65%	15%	5%	--	100%
Providing school districts with cost and vendor information on satellite course and equipment providers	30%	50%	10%	10%	--	100%

PERCEPTION OF THE FUTURE OF DISTANCE LEARNING

The role of distance learning in the future as perceived by participating school administrators was unanimously positive. All (100%) indicated they felt that distance learning would play an increased role in education. Factors which they saw, however, as significantly limiting their school in making greater use of distance learning technology in the future were:

Table 18: FACTORS LIMITING GREATER USE OF DISTANCE LEARNING TECHNOLOGY

Limiting Factors	Administrator Responses Yes	No	No Response	Total
Lack of outside funds to expand usage of distance learning courses	70%	30%	--	100%
The school district budget	70%	25%	5%	100%
State Department of Education policy and regulations	55%	45%	--	100%
Lack of distance learning courses in needed subject areas	45%	50%	5%	100%
The cost of equipment maintainence and upkeep	40%	60%	--	100%
The quality of distance learning instruction	30%	70%	--	100%
The obsolescence of existing equipment	15%	85%	--	100%
The attitude of the school board about technology	10%	90%	--	100%
Consolidation will eliminate the need for it	5%	95%	--	100%
Cooperative hiring of teachers among districts will eliminate the need for it	5%	90%	5%	100%
Teacher surpluses will eliminate the need for it	--	100%	--	100%
The need for distance learning courses will cease to exist	--	100%	--	100%

Administrators see instruction by Satellite as serving:

Table 19: FUTURE ROLE OF INSTRUCTION BY SATELLITE

Future Role of Instruction by Satellite	Administrator Responses Yes	No	No Response	Total
A long-term need for expanding the curriculum offerings of small schools	100%	--	--	100%
A short-term need for curriculum expansion until other technologies are more widely available	70%	25%	5%	100%
As a means for small schools to avoid or delay consolidation	70%	30%	--	100%
As a source of supplemental course material for larger school districts	100%	--	--	100%
As a means of teacher in-service training in small districts	100%	--	--	100%

Administrative opinion of the future of instruction by Satellite is underscored by the 95% who, now knowing what is involved with beginning and operating an instruction by Satellite course, would recommend the technology to other districts. Their opinions of the future of the technology are listed below:

Table 20: ADMINISTRATOR OPINIONS REGARDING FUTURE OF INSTRUCTION BY SATELLITE

Future of Instruction by Satellite	Administrator Opinions: Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
It is here to stay; it is a quality and cost-effective method of providing upper-level courses	30%	55%	10%	5%	--	100%
It will ultimately be used to teach many more types of courses	20%	55%	10%	5%	--	100%
Satellite technology will very likely be responsible for the continued existence of many small schools	20%	45%	15%	20%	--	100%
State departments of education view instruction by satellite as a threat to their sovereignty	10%	35%	25%	30%	--	100%
Satellite technology is probably more useful for enrichment viewing and teacher in-service than for stand-alone credit courses	10%	25%	20%	45%	--	100%
Other technologies such as interactive TV will most likely take its place	--	15%	55%	25%	--	95%
It is a stop-gap measure until qualified teachers can be found or hired	--	15%	15%	60%	5%	95%
Teacher organizations may ultimately decide the fate of instruction by Satellite	--	--	35%	60%	5%	100%

PROBLEMS OR RESERVATIONS

Major problems or reservations with instruction by satellite as listed by the administrators (along with the percent of administrators listing that problem) include:

[Note: Sixty-five percent (13) of the administrators listed one or more major problems or reservations; 5% (1) indicated there were none; and 30% (6) did not respond to the question.]

Table 21: MAJOR PROBLEMS OR RESERVATIONS WITH INSTRUCTION BY SATELLITE

Major Problems or Reservations	% of Adminstrators
• The cost	15%
• There is no teacher in the classroom	10%
• Lack of interaction between professor and students	10%
• State Dept. will spend too much money regulating something so simple	10%
• Course requires "self-motivated" students	10%
• Teacher cannot "read" students/cannot stop and reteach	10%
• Room for instruction (local problem)	5%
• No source of training for coordinators	5%
• Course is not "fine-tuned" yet	5%
• Some districts will not take the role of coordinator seriously	5%
• Lack of immediate feedback for students	5%

ADMINISTRATIVE/DISTRICT TIME AND COSTS

Administrator time and costs involved from the initial point of consideration of instruction by Satellite until the program was implemented ranged from 10 - 200 hours and from $200 - $12,000. For the seventeen districts reporting this information, the average number of administrative hours involved in initiating the project was 94 hours while the estimated average administrative cost was $2797. *

Other costs involved in implementing an Instruction by Satellite program, e.g., equipment costs, subscription fees, maintenance, insurance, technical support, etc. will be detailed in the Study's Final Report.

*Note: While these figures are intended to reflect administrative costs *only*, it is probable that several administrators included some equipment costs in their cost estimates, thus contributing to the high $2797 average. Complete information on ALL costs involved will be highlighted in a subsequent Final Report.

PRELIMINARY FINDINGS--COORDINATOR QUESTIONNAIRE

Completed coordinator questionnaires were received from 17 (81%) of the 21 Missouri and North Dakota schools involved in German by Satellite during the 1987-88 school year. Information from those questionnaires is summarized below:

Time Involved as Coordinator

Eighty-two percent (82%) of the German I by Satellite coordinators served as coordinator of only that class; 6% also coordinated German II by Satellite; and 12% coordinated Physics by Satellite as well as GBS I. Hours per week devoted to in-class coordination of German I by Satellite ranged from 1 to 8 hours, with 65% of the coordinators serving in that capacity 5 hours per week. Eighty-eight percent (88%) of the coordinators served 5 days/week in that role. Out-of-class time which the coordinators devoted to GBS I activities ranged from less than 1 hour to 16 hours per week. The average amount of out-of-class time spent by GBS I coordinators was 3-4 hours per week.

Coordinator Employment Status with School

Eighty-two percent (82%) of the coordinators were employed with the school prior to accepting the role of GBS Coordinator. Of those, 94% had been full-time employees of the district, being employed as a teacher (41%), a superintendent (18%), a librarian (12%), or an aide (6%). [Three coordinators did not respond to this question.] The one part-time employee had been previously hired as a substitute teacher with the district.

Of interest is the circumstances under which the coordinators were attracted to serving in that capacity. While 12% report having volunteered for the position, 65% report having "willingly agreed", as distinguised from the 6% who report having been "assigned the duty". [18% of the coordinators did not respond to this question.]

The coordinators were asked--if they had previously been employed "full-time" with the district--whether someone else was hired to cover their previous duties. Their responses are listed below:

Table 22: STATUS OF PRIOR DUTIES OF PERSON HIRED AS SATELLITE COORDINATOR

Status of Prior duties	% of Coordinator Responses
Yes, someone else was hired to cover duties	15%
No, the duties were shifted to someone else on staff	15%
No, those duties were added on to my job as Satellite Coordinator	62%
No, no one is currently performing those duties	8%
	100%

All coordinators (100%) are currently hired in another capacity with the district as well as serving as Satellite Coordinator:

Table 23: AUXILIARY DUTIES OF SATELLITE COORDINATOR

Other Coordinator Duties	% of Coordinators
Classroom Teacher	52%
Superintendent	18%
Media Coordinator/Librarian	12%
Teacher and Librarian	12%
Teacher and Special Projects Coord.	6%
	100%

Subject areas also taught by those serving as Satellite Coordinators included:

Table 24: SUBJECT-AREA CERTIFICATION OF SATELLITE COORDINATORS

Subject Area	% of Coordinators
Language Arts/English/Speech/Journ	42%
English/PE	8%
Computers/Study Skills	8%
Art	8%
Computers/Gifted	8%
Science/Computers/Chemistry	8%
French	8%
Learning Disabilities	8%
	98%*

* Rounding error prevents total of 100%.

Only one coordinator reported simultaneously assigned duties during German by Satellite--recording enrichment programming and speech coach. Two coordinators, however, did not respond to this question.

Level of Coordinator Knowledge

Coordinators were asked to rate their level of knowledge or experience with each of the following prior to accepting the position of Satellite Coordinator:

Table 25: COORDINATORS' SELF-RATING OF KNOWLEDGE OR EXPERIENCE

Skills	None	Very Little	Some	Moderate Amount	Great Deal	No Resp	Total
Use of computers	12%	35%	18%	18%	18%	--	100%
Modems	65%	18%	12%	--	6%	--	100%
VCR's	--	12%	29%	47%	12%	--	100%
Satellite receiving equipment	59%	29%	12%	--	--	--	100%
Computer programming	53%	12%	18%	12%	6%	--	100%
Computer software use	12%	29%	18%	18%	18%	6%	100%
Tape recorders	--	--	--	53%	47%	--	100%
Speaker telephones	53%	41%	--	6%	--	--	100%
Knowledge of German	41%	12%	6%	24%	6%	12%	100%
Classroom management skills	--	--	--	24%	65%	12%	100%

None of the coordinators owned a home satellite dish, and therefore had little knowledge of the technology. However, only 65% report having received *any* training as a Satellite Coordinator. Where training did occur, the following were listed as sources for that training: Mayville (ND) State University--35%; satellite dealer--18%; computer teacher--12%; district Educational Consultant--6%; the broadcast coordinator--6%; and MSBA workshop--6%. Number of hours spent in training ranged from 1 to 8 among those receiving training at all. Coordinators receiving training averaged 4 hours of training time.

Coordinators were asked whether they had received written guidelines on their duties as Satellite Coordinator. Among those having received training, all reported having received some written guidelines. In addition, 2 of the remaining 6 coordinators completing the questionnaire also received written guidelines.

Types of training received by the Satellite Coordinators can be seen below:

Table 26: TRAINING RECEIVED BY SATELLITE COORDINATORS

Types of Training Received	% of Coordinators*
Operation of satellite receiving equipment	77%
Computer hardware operation	59%
Computer software operation	59%
Use of the computer modem	35%
Use of the speaker phone system	47%
Role of the coordinator in the classroom	53%

* Multiple responses were given, therefore totals do not equal 100%. Percentages are based on total number of coordinators NOT total number receiving training.

In hindsight, the coordinators were asked how they would have improved the startup of the German by Satellite course in their school, knowing what they now know :

Table 27: COORDINATOR IDEAS FOR IMPROVING STARTUP OF SATELLITE COURSE

Improvements	% of Coordinators
More coordinator training/on-site training/more in-service time on equipment	42%
Purchase equipment sooner/Have all equipment operational before classes begin	18%
Coordinator should get involved in teaching as students aren't self-motivated enough to work on their own/Should have taken over class from the beginning and had daily homework and quizzes	12%
No improvements needed	12%
Have satellite broadcasts start after Labor Day to coincide with that of public schools	6%
Letters to parents alerting them to course difficulty	6%
Use of a different grading scale/elevate to Honors Class	6%
Set aside up-front time to cover study skills and organization	6%
More computers/more computer training time	6%
Better tape labeling/better explanation of textbook structure	6%
Start the class the first day of school/no late starts	6%
Would hold as class rather than having students work on their own during study halls	6%

After seeing what is expected of them in the role of coordinator, the coordinators were asked what qualifications they feel are necessary for an instruction by Satellite Coordinator:

Table 28: COORDINATOR OPINION OF NECESSARY QUALIFICATIONS FOR ROLE

Qualifications	% of Coordinators in Agreement
The Coordinator should be present in the classroom at all times	71%
The Coordinator should have some knowledge of the subject matter being taught	65%
Coordinator should be a certified teacher at the secondary level	59%
Coordinator need not be a certified teacher at all	29%
Coordinator should be a certified teacher in another discipline	24%
Coordinator should be a certified teacher in a foreign language	24%
The Coordinator role can be adequately handled by the principal, counselor, or other non-teaching employee	24%

Length of Class Periods/Enrollment by Class

The length of class periods for German by Satellite varied from 45 to 57 minutes, with an average of 51 minutes. All but one coordinator reported that students were available 5 days/week for the course.

The number of students enrolled during the 1st semester of 1987-88 totaled 163 students, each class averaging 9.6 students. Class size varied, however from a low of 2 students to a high of 15. Second semester enrollments showed a significant drop from 163 to 119 students for an average class size of 7. Persistence rates, (e.g., 2nd semester enrollment divided by 1st semester enrollment), ranged from a high of 100% in four schools to a low of 33% in a single school. Overall persistence rate among participating schools was 73%.

Make-up of the German by Satellite classes by grade level can be seen below:

Table 29: COMPOSITION BY GRADE LEVEL OF GERMAN BY SATELLITE CLASSES

Grade Level	% of Enrolled Students by Grade Level
12th grade	38%
11th grade	38%
10th grade	10%
9th grade	14%
7th-8th grade	0%
	100%

Class Format and Location

Student enrollment by class format is listed as follows:

Table 30: STUDENT ENROLLMENT BY CLASS FORMAT

Class Format	% of Students	% of Schools
Live broadcast	47%	41%
Same-day taped broadcast	42%	47%
Next-day taped broadcast	7%	
Home viewing of taped broadcast	1%	6%
Other, e.g., during study halls	3%	6%
	100%	100%

The majority of schools (82%) had only a satellite receiving site in the high school. Two schools had both a high school and an elementary site; one school had both a high school and junior high site. The number of satellite receiving sites in the school varied from 53% with one receiving site to 12% with all high school classrooms wired as receiving sites.

The locations of the German by Satellite class can be seen below:

Table 31: IN-SCHOOL LOCATION OF GERMAN BY SATELLITE CLASS

	% of Schools	
	On Broadcast	On Non-broadcast
Class Location	Days	Days
Library/Media Center	29%	6%
Regular classroom	29%	18%
Computer lab	24%	59%
Other	18%	18%

All but one school (94%) do tape the live broadcasts for the following purposes:

Table 32: PURPOSES REPORTED FOR WHICH VIDEOTAPING IS DONE

Purposes	% of Schools*
Students who are absent from class	77%
Student review	71%
Students whose class schedule will not permit regular attendance in German by Satellite class	59%
Use by other students/faculty/community members not enrolled in the class	24%
Other, e.g., Public Relations	6%

* Multiple responses given by respondents

Additional Usage Made of Satellite Equipment

Coordinators were asked for what purposes, in addition to the instruction by Satellite course(s), their satellite receiving equipment was being used:

Table 33: ADDITIONAL USES OF SATELLITE RECEIVING EQUIPMENT

Other Purposes	Never/ NR	Rarely	About Once/ Month	2-3 Times/ Month	About Once Week	2-3 Times/ Week	More Often	Total
K-6 programming for instructional use in the classroom	47%	17%	6%	6%	6%	--	18%	100%
7-12 programming for instructional use in the classroom	30%	17%	--	17%	6%	6%	24%	100%
Teacher In-Service Training	36%	23%	29%	12%	--	--	--	100%
Student enrichment viewing	36%	12%	23%	6%	--	6%	17%	100%
C-Span programming	82%	12%	6%	--	--	--	--	100%
Discovery Channel	64%	12%	6%	--	12%	6%	--	100%
Learning Channel	70%	6%	6%	--	6%	6%	6%	100%
Other*	58%	12%	6%	12%	6%	--	6%	100%

* Disney Channel, public broadcasting, rewards for good behavior & performance, Talcott Mountain Science, National Diffusion Network, Weather, Business Report, and rock videos

While only 3 schools (18%) have bell schedules which perfectly coincide with German by Satellite, the amount of difference in minutes among the remaining schools ranges from 5-30 minutes. [Note: Keep in mind that only 41% of the schools view the broadcast live.]

Among the schools whose bell schedule does not coincide with GBS, 29% indicate that students are released early or admitted late to other classes in order to view entire GBS broadcast.

Homework and Test Grading Policies

Coordinators indicate that homework and tests are graded in the following manner:

Table 34: GRADING POLICIES FOR HOMEWORK AND TESTS

Grading Policies	% of Schools*
All homework is graded locally (with answer keys provided by satellite course provider)	24%
Homework is graded locally but sent to course provider (at OSU) for verification	18%
All homework is sent to course provider for grading	65%
Portions of tests are graded locally (with answer keys distributed by course provider)	100%

* Multiple responses were given by respondents

Delays experienced due to mailing of homework and tests resulted in an average of 13 days delay, as reported by the coordinators. Delays ranged from a low of 7 days to a high of 20 days. Seventy-one percent, however, reported experiencing no problems because of the mail delays. Of the 29% reporting having experienced problems because of the delays in receiving returned homework and tests, the nature of the problem centered around having to wait for quarter or semester grades, students studying one chapter while being tested on a previous chapter, and not receiving feedback on dialogue tapes.

Student-Computer Ratios and Software Usage

Eighteen percent (18%) of the coordinators report having 1 or more computers per student; 47% report having 1-2 students per computer; and 35% report more than 2 students for each computer. Student access to computers was reported as having the following restrictions:

Table 35: STUDENT ACCESS TO COMPUTERS

Computer Access	% of Schools*
Monday through Friday during class time	65%
Only on non-broadcast days	35%
Before school	77%
After school	77%
During study halls or lunch periods	77%
During release time from other classes	47%
Other arrangements, e.g., in regular classes	12%

* Multiple responses were given by respondents

Coordinators were asked to assess student usage of software associated with the German I by Satellite course:

Table 36: EXTENT OF STUDENT USAGE OF COMPUTER SOFTWARE AND PERIPHERALS

Software/Peripheral Use	Never/ NR	Rarely	About Once/ Month	2-3 Times/ Month	About Once Week	2-3 Times/ Week	More Often	Total
Dasher software	6%	--	6%	6%	29%	47%	6%	100%
Wortschatz software	6%	--	12%	6%	47%	29%	--	100%
Diktat software	12%	29%	--	29%	18%	12%	--	100%
Voice-based learning system	12%	24%	12%	40%	6%	6%	--	100%
Electronic mailbox	82%	6%	6%	--	6%	--	--	100%
Call in during broadcasts	47%	47%	--	--	6%	--	--	100%
Call in questions at other times during the school day	12%	41%	29%	18%	--	--	--	100%
Audio tapes with Wortschatz software	36%	12%	12%	40%	--	--	--	100%
Audio tapes supplied with text	12%	--	24%	46%	18%	--	--	100%

Course Drop Policy

Ninety-four percent (94%) of the participating schools did allow students to drop classes at semester; 77% of the schools did have students who dropped German I by Satellite after the first semester. Reasons cited by the coordinator for student attrition were as follows:

Table 37: COORDINATOR OPINION REGARDING FACTORS CONTRIBUTING TO STUDENT ATTRITION

Reasons for dropping GBS I	% of Coordinators*
Course was too difficult	47%
Students were not motivated to learn	47%
Students were concerned about the class lowering their grade point average or class rank	47%
Students felt too much was expected of them	29%
Students were frustrated by not having a teacher in the classroom	29%
Other, e.g., tired of repeated computer drills, some thought it would be an easy class, students felt forced into class by scheduling problems, some had to schedule another class for graduation	29%
Students could not quickly get answers to questions	24%
Students were uncomfortable with a televised class	12%
Students felt they were not learning	12%
Students felt the grading was too low	6%
Students felt there was too much homework	6%
Students disliked using computers	6%
Students felt class was a waste of time	0%
Conflict with coordinator	0%

* Coordinators gave multiple reasons, therefore totals do not equal 100%

Fifteen (88%) of the responding 17 coordinators indicated that there had been a special effort made to encourage students to remain in the class for the second semester.

Coordinator Assessment of Student Knowledge

Coordinators were fairly evenly split in their assessment of knowledge gained by GBS students. When asked how much their German by Satellite students had learned in the course, 29% responded "a great deal"; 35%, "an acceptable amount"; and 35%, responded "not as much as I think they should have by now".

Table 38 relates Coordinator responses to the question, "How would you compare the German I by Satellite course with a regular class in the same subject?":

Table 38: COORDINATOR COMPARISON OF "SATELLITE" VS. "TRADITIONAL" CLASS

	% of Coordinators					
German by Satellite students generally:	Strongly Agree	Agree	Unde-cided	Dis-agree	Strongly Disagree	Total
Learn less than they would in a regular class	6%	46%	18%	18%	12%	100%
Are frustrated by not having a subject-knowledgeable teacher in the classroom	24%	29%	29%	6%	12%	100%
Do not want to put forth the effort required of them	18%	29%	29%	12%	12%	100%
The German by Satellite course:						
Gives students the opportunity to learn more than they may in a traditional German class	18%	40%	24%	18%	--	100%
Is the only alternative available for offering foreign language in the school	35%	12%	18%	24%	6%	94%*
Is preferrable to no course at all	82%	12%	6%	--	--	100%

* One coordinator did not respond to this item

Coordinator Responsibilities

Coordinators were asked to indicate which of the following tasks they were currently performing and which they felt they *should* be performing. While some duties were carried out by students or staff other than the Course Coordinator, other duties were currently not being performed at all. Table 39 details coordinator opinions regarding duties considered necessary to the course, identifying those which are currently performed as well as those which should be performed by the Course Coordinator:

Table 39: COORDINATOR ASSESSMENT OF DUTIES CURRENTLY PERFORMED VS. THOSE THEY FEEL SHOULD BE PERFORMED

Coordinator Duties	Currently Performing	Should be Performing	Other/Not Important/NR*	Total
Maintaining discipline	100%	--	--	100%
Administering tests	100%	--	--	100%
Grading tests (or portions of tests)	100%	--	--	100%
Motivating students to do well	94%	6%	--	100%
Taping satellite broadcasts	88%	6%	6%*	100%
Being able to answer simple questions or help students find answers quickly	88%	12%	--	100%
Assisting students with use of software	82%	18%	--	100%
Coordinating use of software to insure use of each by all students	82%	18%	--	100%
Operating the satellite receiving equipment	82%	12%	6%*	100%
Encouraging students to communicate with the professor	71%	24%	6%*	100%
Learning German along with the students	71%	24%	6%*	100%
Identifying and solving problems individual students may be having with the course	64%	18%	18%*	100%
Watching all broadcasts with the students	65%	29%	6%*	100%
Constructing additional quizzes or worksheets to assist student learning	59%	35%	6%*	100%
Troubleshooting problems with computers or satellite receiving equipment	47%	35%	18%*	100%
Assisting students with modem/electronic mail	35%	29%	36%*	100%
Scheduling the students for on-air time as "Host School"	35%	47%	18%*	100%

* Some duties are performed by students or staff other than the Course Coordinator; other duties are considered as unnecessary by some coordinators.

Problems/Needed Improvements

From their perspective, the coordinators were asked whether they felt there were aspects of the course which they felt needed to be improved upon. Seventy-six percent (76%) indicated there *were* improvements needed and responded with the following list of detailed problems:

Table 40: COORDINATOR PERCEPTION OF COURSE PROBLEMS AND NEEDED IMPROVEMENTS

Needed Improvements	% of Coordinators Indicating a: Severe Problem	Serious Problem	Tolerable Problem	Unspecified Severity	Total
Getting immediate help instead of answering machine	--	6%	--	--	6%
Synchronizing tape & software with Wortschatz	--	6%	--	--	6%
Scheduling tests ahead of time	--	--	6%	--	6%
Dasher drills should be in random order	--	--	--	6%	6%
Focus should not be on broadcasts	--	--	6%	--	6%
Need a backup satellite receiver when problems occur (local problem)	6%	--	--	--	6%
VBLS program does not work/had no one to work on it	12%	6%	6%	--	24%
Need classroom lesson plans to reinforce activities	--	--	6%	--	6%
Test material should be in different format from text or workbook	6%	--	--	--	6%
Ability level of students must be very high	6%	--	--	--	6%
There are too many devices for students to use	--	--	6%	--	6%
More computers needed (local problem)	--	6%	6%	--	12%
Software and audio tapes have synchronization problems	6%	--	--	--	6%
Text is too hard for high school students	6%	--	--	--	6%
There is too much vocabulary to grasp	--	6%	--	--	6%

Table 40 (cont): COORDINATOR PERCEPTION OF COURSE PROBLEMS AND NEEDED IMPROVEMENTS

Needed Improvements (Cont.)	% of Coordinators Indicating a: Severe Problem	Serious Problem	Tolerable Problem	Unspecified Severity	Total
There is no interaction with instructor	6%	--	--	--	6%
Class need to be slower paced	6%	--	--	6%	12%
Calls during broadcasts should be monitored/ too much wasted time	--	--	6%	--	6%
Students are too bashful to call in	--	6%	--	--	6%
There should be a general review before tests	--	6%	6%	--	12%
Student attitude should be made part of grade	--	--	--	6%	6%
There should be more air time for some chapters and more coverage of workbook on broadcasts	--	6%	--	6%	12%
There is always a recording when we try to call in	--	--	6%	--	6%
Need more quizzes and homework grades	--	--	--	6%	6%
There is a need for more motivation	--	--	--	6%	6%
Coordinator should be provided with additional material so they could help students more	--	6%	12%	--	18%
There should be more air time on grammar/ fewer frills and commercials	--	--	--	6%	6%
Need to have class rather than individual students working on their own (local problem)	--	6%	--	--	6%
There needs to be more broadcasts per week	--	--	6%	--	6%
There needs to be more intensity/more emphasis on grammar	6%	--	--	--	6%
Coordinators need more guidance at the beginning of the course	6%	--	--	--	6%
New chapters should not begin until tests on previous chapter are taken and graded	--	--	--	6%	6%

Benefits of Having a German by Satellite Course

Coordinators were asked what benefits they saw from their school having initiated the German by Satellite course. The following list of benefits, as related by the Course Coordinators, are listed below:

Table 41: BENEFITS OF GERMAN BY SATELLITE AS EXPRESSED BY COORDINATORS

Benefits	% of Coordinators*
Offers something otherwise unavailable	41%
Expands our educational opportunities/ being able to offer a foreign language	24%
Students are more prepared for college	24%
An additional foreign language	12%
Students learn important study skills	12%
Teacher In-Service Training programming and other satellite offerings	12%
Experiencing different learning situations	6%
Very good for self-motivated students	6%
Opportunity for exposure to quality instructors	6%
A stable foreign language program, not dependent on being able to find a qualified teacher	6%
Community use of equipment	6%
Provides an "image" for the school and good public relations	6%
Bright students are challenged	6%
Can accomodate fewer students than a regular class and still be cost efficient	6%
More access to cultural material than in a traditional class	6%

*Coordinators gave multiple responses, therefore totals do not equal 100%.

PRELIMINARY FINDINGS--STUDENT QUESTIONNAIRE

Completed student questionnaires were received from 17 (81%) of the 21 Missouri and North Dakota schools involved in German by Satellite during the 1987-88 school year with a total of 110 students responding. Information from those student questionnaires is summarized below:

Table 42: STUDENT REASONS FOR ENROLLING IN GERMAN BY SATELLITE

Student Reasons for Enrolling	% of Students
I wanted to learn a foreign language/a second foreign language/ only way to get a foreign language/learn about Germany	48%
I thought it would be interested/sounded exciting	19%
To prepare for college/career	15%
It was not my decision/forced to be there/had no choice	6%
There was no other class I was interested in/no other class I could take	4%
A friend/my dad persuaded me	3%
I didn't know it was going to be taught by satellite	2%
I thought it would be a reasonably paced course that I could keep up with	1%
Because of growing trade between Germany and US	1%
My German heritage	1%
	100%

Students were asked whether they would have enrolled in the same course IF it had been offered as a regular classroom course. Eighty-nine percent (89%) indicated that they would have; 11% of the students indicated that they were attracted to the course only because of the technology involved.

Only four students (3.6%) were enrolled in another satellite course in addition to German I. However, if given the opportunity, 54% of the students indicated they would enroll in another Instruction by Satellite course.

Grade Level and Future Plans of Enrolled Students

The grade level of enrolled students is listed below:

Table 43: GRADE LEVEL OF STUDENTS ENROLLED IN GERMAN I BY SATELLITE

Grade Level	% of Students
7th-8th grade	0%
9th grade	12%
10th grade	17%
11th grade	29%
12th grade	42%
	100%

Asked to categorize themselves regarding grades received in junior high and high school, the students responded as can be seen below. (A question on actual grade information, i.e., GPA, was included on the Coordinator's Questionnaire.)

Table 44: STUDENT SELF-ASSESSMENT OF JUNIOR HIGH & HIGH SCHOOL GRADES

Categorization	% of Students
"A" student	23%
"A" or "B" student	53%
"C" student	21%
"D" student	3%
	100%

It is important to note that 95% (104 students) indicated that they currently planned on going to college, however, only 59% (65 students) felt that they needed the course for college.

Future career plans among those students enrolled in German by Satellite fell across a large range of occupations as can be seen in Table 45:

Table 45: FUTURE CAREER PLANS OF GERMAN BY SATELLITE STUDENTS

Career Plans	% of Students
Career in journalism/communications/ law/medicine/engineering/computer science/pharmacist	26%
Business executive/business management/ Accountant	13%
I don't know/Undecided	11%
Teacher/college professor	10%
Army/Navy/Air Force	10%
Get a job/make money	5%
Artist/fashion designer/photographer	4%
Travel/travel agent	5%
Social worker/paramedic/child psychologist	3%
Chemist/biologist/Astrophysicist	3%
Electrician/Electronics	2%
Languages/interpreter	2%
Nurse in foreign country/nurse	2%
Pilot/aircraft mechanic	1%
Agriculture	1%
Coach	1%
Seminary/pastor	1%
	100%

Other Foreign Language Experience

Only 15% (16) of the German I by Satellite students had experience in any other foreign language class. Of those 16 students, 12 had experience in Spanish, 1 in French, 1 in Russian, and 1 in Latin and Spanish. (One student did not respond.)

Of those students having previous foreign language experience, number of years experience ranged from a low of one semester to a high of four years:

Table 46: PREVIOUS FOREIGN LANGUAGE EXPERIENCE OF GBS STUDENTS

Length of Experience	% of Students*
1 semester	1%
1 year	6%
2 years	4%
3 years	3%
4 years	1%

* Percentage is based on TOTAL number of students, not just those with foreign language experience

Person Most Responsible for Students' Enrollment in GBS

Each student was asked to indicate who was most responsible for them enrolling in German by Satellite. (Some students gave multiple responses, therefore percentages do not total 100%.) Their responses follow:

Table 47: STUDENT ASSESSMENT OF PERSON MOST RESPONSIBLE FOR ENROLLING IN GERMAN BY SATELLITE

Person Responsible for Enrolling in GBS	% of Students*
No one; I decided on my own	70%
My parents	18%
The superintendent	6%
The principal	8%
The counselor	10%
A teacher	6%
Other students	10%
Other	4%

* Some students gave multiple responses, therefore total does not equal 100%.

Student Perceptions of the Course

Students were asked whether they agreed or disagreed with a series of statements about studying foreign language in general and instruction by Satellite specifically:

Table 48: STUDENT PERCEPTIONS OF GERMAN BY SATELLITE COURSE

Student Perceptions	% of Students Responding						
	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree	NR	Total
Studying foreign language is interesting	32%	58%	6%	2%	1%	1%	100%
I prefer instruction by Satellite over a regular class	7%	9%	27%	38%	18%	1%	100%
I like taking responsibility for learning myself	16%	45%	26%	11%	1%	1%	100%
It wasn't my idea to enroll in German by Satellite	5%	11%	8%	39%	36%	1%	100%
The TV broadcasts make the course more exciting	17%	32%	20%	20%	9%	2%	100%
I don't learn very much from the TV broadcasts	11%	24%	21%	32%	9%	3%	100%
I like working on the computer	22%	48%	17%	6%	5%	2%	100%

Seventy percent (70%) of the students enrolled in GBS indicated that the course was different than they had expected. Ways in which the course differed from student expectations are listed below:

Table 49: HOW COURSE DIFFERED FROM STUDENT EXPECTATIONS

Ways in Which Course Differed from Student Expectations	% of Students*
It's harder/couldn't get questions answered	20%
So much individual work/I thought the professor would teach more/I thought the coordinator would teach more	11%
I thought the class would concentrate more on fundamentals/ I though I would be able to understand more clearly/ I expected to learn more from TV broadcasts	11%
I thought we would go slower and learn more/I expected to learn something	8%
More exciting/more fun/different atmosphere	7%

Table 49 (cont.): HOW COURSE DIFFERED FROM STUDENT EXPECTATIONS

Ways in Which Course Differed from Student Expectations	% of Students
I thought there would be more lectures and less computer work	6%
I didn't know it would include anything but language, e.g., history, culture, etc. (It makes it more interesting)	5%
It's not as much work as I thought/I thought it would move faster	5%
I thought there would be more communication with the professor/there's no one to help you	4%
Not as interesting as having a regular classroom teacher	3%
The sentence structure is so different from English	1%
I thought we would do more with computers	1%
I thought someone in the classroom would know German	1%
I thought there would be booths with headphones	1%
The relaxed attitude about grammar	1%

* Percentages are based on total number of students. Data includes multiple reponses for some students.

Students were asked their perceptions of the difficulty level and amount of homework involved in German by Satellite. There responses are summarized below:

Table 50: STUDENT PERCEPTIONS ABOUT COURSE DIFFICULTY LEVEL AND AMOUNT OF HOMEWORK

The course is:	% of Students Responding
Easier than a regular class in the same subject	11%
Harder than a regular class in the same subject	66%
About the same level of difficulty as a regular class in the same subject	22%
	99%

The course has:	% of Students Responding
More homework than a regular class in the same subject	20%
Less homework than a regular class in the same subject	37%
Abou: the same amount of homework as a regular class in the same subject	42%
	99%

Asked about how much they feel they have learned in German by Satellite this year, the students responded:

Table 51: STUDENT PERCEPTION OF AMOUNT LEARNED IN GERMAN BY SATELLITE

Amount Learned	% of Students
A great deal	15%
An acceptable amount	31%
Not as much as I think I should have by now	44%
Not much at all	10%
	100%

Frequency of Use of Course Components

Because student success may be associated with the extent to which all components of the course are incorporated OR utilized at their school, students were asked to indicate the frequency of usage of the following course components:

Table 52: STUDENT FREQUENCY OF USAGE OF COURSE COMPONENTS

Course Components	Never/ NR	Rarely	About Once/ Month	2-3 Times/ Month	About Once Week	2-3 Times Week	More Often	Total
Dasher software	3%	7%	4%	13%	28%	41%	4%	100%
Wortschatz software	4%	6%	7%	19%	30%	29%	5%	100%
Diktat software	32%	28%	13%	12%	11%	3%	1%	100%
Voice-Based Learning System	16%	35%	13%	16%	10%	9%	1%	100%
Electronic Mailbox	84%	8%	4%	--	3%	--	1%	100%
Call in questions during broadcasts	73%	16%	7%	2%	1%	1%	--	100%
Call in questions at other times during the school day	50%	29%	13%	4%	3%	--	1%	100%
Call in questions from home at night	87%	9%	2%	1%	1%	--	--	100%
Audio tapes with Wortschatz software	32%	29%	13%	14%	7%	4%	1%	100%
Audio tapes supplies with text	19%	18%	27%	20%	9%	6%	1%	100%

Hours Spent Studying Outside of Class Time

The amount of out-of-class study time spent by GBS students ranged from a low of 0 to a high of 7 hours/week, as can be seen below:

Table 53: STUDENT ASSESSMENT OF OUT-OF-CLASS STUDY TIME

Amount of Study Time	% of Students
None	5%
Less than 1 hour per week	6%
1 to less than 2 hours per week	22%
2 to less than 3 hours per week	27%
3 to less than 4 hours per week	16%
4 to less than 5 hours per week	8%
5 to less than 6 hours per week	9%
6 to less than 7 hours per week	1%
7 hours per week	4%
No response	2%
	100%

Course Components From Which Students Feel They Learn Most

Student were asked to rank order the following course components in terms of how much they learn through each:

Table 54: STUDENT RANK ORDER OF COURSE COMPONENTS IN TERMS OF LEARNING VALUE

Course Components	Rank Order							
	Ranked 1	Ranked 2	Ranked 3	Ranked 4	Ranked 5	Ranked 6	Total*	Avg. Rank
Textbook	36%	29%	16%	6%	6%	1%	94%	2.2
Computer Software	37%	24%	17%	11%	3%	5%	97%	2.3
TV Lectures	16%	12%	23%	17%	13%	12%	93%	3.4
Workbook	6%	19%	25%	23%	13%	7%	93%	3.4
Language tapes	5%	4%	8%	17%	35%	25%	94%	4.6
Voice-Based Learning System	5%	6%	4%	15%	23%	41%	94%	4.8

* Percentages are based on total number of students; difference between Total % and 100% is attributable to students who did not rank one or more components.

In addition to the above components students were asked if there were other parts of the course from which they felt they benefited. Eighteen percent of the students enumerated the following additional benefits:

Table 55: STUDENT ASSESSMENT OF OTHER COURSE COMPONENTS FROM WHICH BENEFITED

Additional Course Components From Which Benefited	% of Students *
Playing games	6%
Classroom discussions	3%
A nearby teacher who knows the language & can help when we have problems/a German-speaking teacher in the classroom	3%
The classroom teacher taught us a lot	2%
Computers	2%
Self-discipline	1%
The field trip to Hermann	1%

*Percentages are based on total number of students.

Student Impressions of German I by Satellite

Students were asked what they most and least liked about the instruction by Satellite course. Their responses display a wide range of impressions:

Table 56: STUDENT ASSESSMENT OF MOST LIKED ASPECTS OF GERMAN BY SATELLITE

What about the course do you LIKE MOST?	% of Students*
It's innovative/challenging/different from other classes/ TV broadcasts/being able to speak in German	26%
Music videos/mental breaks/commercials/German culture	25%
Computer work	23%
Dr. Wohlert/explaining everything in detail/pleasant attitude of professor about learning	7%
I can work on my own/at my own speed/rewatch what you don't understand	7%
"That I'm finally understanding"/our new classroom teacher	6%
Not much homework/the field trip	3%
Pronunciation drills/learning new words	2%
Voice-based learning system	1%
Nothing	1%

* Multiple responses were given by students; 6% of students did not respond to this question.

Table 57: STUDENT ASSESSMENT OF LEAST LIKED ASPECTS OF GERMAN BY SATELLITE

What about the course do you LIKE LEAST?	% of Students *
Workbooks/audio tapes/VBLS	16%
Not having a teacher in classroom to answer questions/ can't understand German broadcasts/can't ask questions	15%
Haven't learned as much as I should have/can easily fall behind/too much to do on my own/content not explained enough/having to discipline myself/goes too fast/no incentive to work	14%
All of it/boasting about Germany/German language/the instructor	14%
TV broadcasts/videotapes/broadcasts don't explain enough/ host schools	12%
Tests/homework/inadequately prepared for tests	8%
Computers/Diktat/Dasher	7%
Not enough discussion time on air/very slow moving/not very exciting/unnecessary small talk/too many tangents	6%
Nothing/No complaints	6%
Sentence structure/memorizing	4%

* Multiple responses were given by 86% of the students; 14% did not respond to this question.

Student Perceptions of Classroom Coordinator Duties

Students were asked to identify which of the following tasks were currently being performed by their coordinator and which tasks they felt their coordinator should be performing:

Table 58: STUDENT PERCEPTION OF COORDINATOR DUTIES

Coordinator Duties	% of Students Responding that: Coordinator is Currently Doing	Coordinator Should Be Doing	No Resp*	Total
Giving tests	99%	--	1%	100%
Grading tests (or portions of tests)	98%	--	2%	100%
Maintaining discipline	95%	5%	--	100%
Motivating students to do well	94%	6%	--	100%
Taping satellite broadcasts	94%	5%	1%	100%
Operating the satellite receiving equipment	85%	11%	4%	100%
Coordinating use of software to insure use of each by all students	76%	21%	3%	100%
Assisting students with use of software	73%	24%	3%	100%
Watching all broadcasts with the students	73%	24%	3%	100%
Encouraging students to call the professor	69%	28%	3%	100%
Learning German along with the students	69%	26%	5%	100%
Troubleshooting problems with computers or satellite receiving equipment	67%	20%	13%	100%
Being able to answer simple questions or help students find answers quickly	66%	32%	2%	100%
Constructing additional quizzes or worksheets to assist student learning	59%	34%	7%	100%
Identifying and solving problems individual students may be having with the course	57%	38%	5%	100%
Assisting students with modem or electronic mail	27%	63%	10%	100%
Scheduling the students for on-air time as "Host School"	22%	63%	15%	100%

* Students may not have responded for coordinator duties which they felt are not necessary, i.e., modem use or scheduling as "Host School", etc.

Student Assessment of Problems with the Course

While over half of all students involved in the study (57%) felt there were aspects of the course which needed to be improved upon, it is important to note the specific areas in which they felt improvement was needed:

Table 59: STUDENT-IDENTIFIED PROBLEMS WITH GERMAN BY SATELLITE

Student-Identified Problems	% of Students
Eliminate the small talk/fewer lecture breaks/broadcasts need to be more relevant/broadcasts need to go into more detail/more discussion of text during broadcasts/should teach more out of book/texts are poorly put together/broadcasts should be shorter, but daily	18%
Need a qualified German instructor in the classroom/coordinator should know German/one coordinator to coordinate all aspects of program	12%
Course skips around too much/more continuity in instruction needed/call-ins interrupt instruction or have nothing to do with instruction/phone calls during broadcasts should be screened/shouldn't waste so much time waiting for students to get caught up/don't waste time with birthdays, etc.	11%
Professor needs to explain more (better)/should start at beginning of chapter and work through/should stick to instruction/college-level instruction is a problem/more emphasis on language structure is needed	13%
Pace is too fast/Should wait for students to understand before going on/professor needs to slow down when speaking in German/let Mrs. Wohlert teach more	8%
More workbook help/review before tests needed/test tapes are hard to understand	8%
Better satellite equipment/equipment breakdowns/not being able to view live broadcasts/not taping when school is not in session, e.g., snow days	7%
Course should be made more enjoyable/more interesting	7%
Should give more direct answers when you call in/shouldn't "beat around the bush"/ can never get questions answered/trying to call the professor is a problem	6%
Students should do more/more quizzes needed/more homework needed/more time for computers/coordinator should collect homework/more self-motivation is needed	5%
Need a better way to learn vocabulary/computer programs need to be changed so they work/need to emphasize memorizing/VBLS doesn't help with correct pronunciation	2%
Other, e.g.,there should be less homework/shouldn't boast so much about Germany	2%

PRELIMINARY FINDINGS--PARENT QUESTIONNAIRE

Believing it was important to gain an insight into parent impressions of the course, schools were asked to send parent questionnaires home with German I students. Completed parent questionnaires were received from 17 of the 21 participating schools.

Parent Impressions

Parents were asked whether they had actually seen the German by Satellite course in which their child was enrolled and what their impression of the course was. While one-third (33%) of the parents had seen segments of the course, further cross-tab analysis will determine parent impressions of the course by those having viewed or not viewed the course.

Table 60: PARENT IMPRESSIONS OF GERMAN BY SATELLITE COURSE

Parent Impressions	% of Parents
Very Favorable	18%
Favorable	51%
Unfavorable	10%
Very Unfavorable	2%
Don't know/Undecided	17%
No response	1%
	99%*

* Rounding error prevents total of 100%

When asked their impressions of degree of difficulty of the instruction by Satellite class, parents responded:

Table 61: PARENT IMPRESSIONS OF COURSE DIFFICULTY

Course Difficulty Level	% of Parents
Course is harder than a regular class in the same subject	58%
Course is easier than a regular class in the same subject	7%
Course is about the same level of difficulty as a regular class	35%
	100%

Parents were asked the extent to which they agreed or disagreed with the following statements:

Table 62: PARENT IMPRESSIONS REGARDING INSTRUCTION BY SATELLITE

Statements About Instruction by Satellite	% of Parents Responding: Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Instruction by Satellite classes allows the school to offer classes it could not otherwise offer	52%	33%	7%	7%	1%	100%
The quality of instruction is better in Satellite classes than it would be if a teacher was hired locally	2%	13%	44%	25%	16%	100%
Students would learn more with a subject-certified teacher present in the classroom	27%	37%	30%	6%	--	100%
Instruction by Satellite might allow the school to avoid or delay consolidation because of the additions to the curriculum	15%	36%	41%	7%	1%	100%
Satellite instruction is only a passing fad	--	2%	25%	53%	20%	100%

Parent Perceptions of Benefits of Instruction by Satellite

Parents were asked to relate what in their opinion were the benefits of instruction by Satellite. Table 63 details their responses:

Table 63: PARENT PERCEPTIONS OF BENEFITS OF INSTRUCTION BY SATELLITE

Benefits	% of Parents*
Makes possible a wider variety of classes/ enhanced curriculum/a chance for a class not otherwise available	50%
Is less costly than hiring a subject-certified teacher/it is cost effective	8%
Reaches a larger student audience/has a college professor teaching/provides a "taste of college"/ professor is very positive and knowledgeable	5%
No benefits	5%
Would not otherwise get prerequisites for college	4%
Students like it/students are learning German/ requires higher learning ability	3%
Flexibility of class scheduling, study time, and rates of learning/tapes can be rerun to reinforce learning	3%
Quality of instruction may be superior	3%
Makes learning more interesting/provides a change of pace from regular classroom	2%
Better than no class at all	2%
Use of advanced technology	1%
Enables small schools to remain in operation	1%
No Response	26%

* Percentages are based on total number of parents. Multiple responses prevent column total from equaling 100%

Parent Awareness of Course Problems

Parents were asked if they were aware of any problems with the German by Satellite course in their school. Nearly one-third (32%) indicated that problems did exist:

Table 64: PARENT ASSESSMENT OF PROBLEMS WITH GERMAN BY SATELLITE

Parent Assessment of Problems	% of Parents
Pace is too fast/students do not learn easily/ skips around too much/students cannot understand/too much homework/easy for students to fall behind/needs more structure	10%
Students are unable to get questions answered or extra help/lack of personal attention	9%
Unqualified coordinator/coordinator does not know German/role of coordinator is not understood by students/coordinator implements own ideas	8%
Lack of dialog between students/needs to be viewed live/scheduling difficulties	4%
Too much grammar/needs to focus more on conversation/not enough instruction	3%
Course lacks incentives to keep students motivated	1%
Equipment does not always work	1%
Slow turn-around time with tests, etc.	1%
No response	67%

Parent Perceptions--Ways in Which Course Differs From Traditional Class

Parents were asked the extent to which they agreed or disagreed with the following statements about satellite classes. Table 65 details their responses:

Table 65: PARENT ASSESSMENT OF WAYS IN WHICH SATELLITE CLASSES DIFFER FROM TRADITIONAL CLASSES

	% of Parents						
Satellite Classes:	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	No Resp	Total
Require higher ability students	17%	39%	26%	13%	--	5%	100%
Require that students are more self-motivated	31%	56%	8%	--	--	5%	100%
Require that students take more responsibility for their own learning	39%	48%	8%	--	--	5%	100%
Require more effort on the part of the student	28%	55%	12%	--	--	5%	100%
Are more frustrating for students because they can't always get questions answered quickly	25%	38%	26%	6%	--	5%	100%

Thirty-six percent (36%) of the parents mentioned *additional* ways in which they felt satellite classes differ from traditional classes:

Table 66: ADDITIONAL WAYS IN WHICH SATELLITE CLASSES DIFFERE FROM TRADITONAL CLASSES--PARENT RESPONSES

Additional Ways in Which Satellite Classes Differ	% of Parents
There is no teacher in the classroom/remote teacher is distant and impartial/no personal contact with teacher/no way to communicate with teacher/impersonal instruction/tests sent in for grading	16%
Other, e.g., no conversational instruction/gives entire family opportunity to learn with student	8%
The pace of satellite classes is set for the fast learner; classes in our school are paced for the slow learner/cannot compensate for differences in student ability/no individual instruction	6%
More challenging to students/requires higher ability students/more independent work by students/no interaction with other students	3%
Students are taught by a college professor/content is presented better	2%
Not as much taught in Satellite class	1%
	36%

Parent Opinion of Future of Distance Learning Courses

Parents were asked their opinion regarding the future of instruction by Satellite and other distance learning courses. Their open-end responses have been categorized below as positive, indifferent (uncertain), or negative:

Table 67: PARENT OPINION--FUTURE OF DISTANCE LEARNING

Parent Opinion--Future of Distance Learning	% of Parent Responses
Postive	45%
Positive with reservations	14%
Indifferent (uncertain)	7%
Negative	6%
No response	28%
	100%

PRELIMINARY FINDINGS--STUDENT ACADEMIC/TEST DATA

In order to be able to appropriately evaluate the many course input variables, it was believed that some measure of student academic ability and achievement was necessary. Measures of IQ, rank in class, GPA, course grades, motivational level, as well as achievement on a national standardized German language test were included in the study. In the full analysis of the study, IQ, class rank, GPA, and motivational level will be used as control variales in determining the effect of input variables, such as role of coordinator, taped/live format, etc., on course grades and achievement test scores. A preliminary summary of the academic and test data follows:

Student IQ

IQ data for participating students was included where available, however because data was included for only 21% of the students, its utility is minimal as a control variable:

Table 68: IQ DATA FOR GERMAN BY SATELLITE STUDENTS

Student IQ Range	% of Students
130-131	2%
120-129	7%
110-119	7%
100-109	2%
90-99	4%
Data Not Available	78%
	100%

Rank in Class

School administrators were asked to provide an indication of student rank in their respective graduation classes. To allow for differential class sizes, the following table details class rank as converted top or bottom percentage of class in which student falls:

Table 69: CLASS RANK OF GERMAN BY SATELLITE STUDENTS

Student Class Ranking	% of Students For Whom Data is Available*
In top 5% of class	9%
In top 6-10% of class	10%
In top 11-20% of class	22%
In top 21-30% of class	13%
In top 31-50% of class	18%
In lower 51-75% of class	16%
In lower 76-90% of class	6%
In lower 10% of class	6%
	100%

* Percentages based on 88% of students for whom class rank was available.

Student Grade Point Average (GPA)

Administrators were likewise asked to include GPA for those students enrolled in German by Satellite. (All GPA's have been calculated--or recalculated--based on a 4-point scale.)

Table 70: GRADE POINT AVERAGE OF GERMAN BY SATELLITE STUDENTS

Student GPA	% of Students For Whom Data is Available*
3.75 - 4.00	14%
3.50 - 3.74	18%
3.00 - 3.49	27%
2.50 - 2.99	18%
2.00 - 2.49	14%
1.50 - 1.99	5%
1.00 - 1.49	5%
	100%

* Percentages based on 80% of students for whom class rank was available.

Student Grades in German I by Satellite

Student German I grades are listed below by semester. Plus and minus grades are incorporated into their respective letter grade.

Table 71: STUDENT GRADES IN GERMAN I BY SATELLITE FOR 1987-88

Student Grades in German I	% of Students* 1st Semester	2nd Semester
A	45%	37%
B	35%	31%
C	17%	25%
D	2%	5%
F	1%	2%
	100%	100%

* Percentages are based on 80% of students for whom grade information was available.

Student Motivational Level

Coordinators were asked to assess each student on a 5-point scale with respect to the motivation level exhibited. The scale ranged from "Highly Motivated" (1) to "Highly Unmotivated" (5).

Table 72: COORDINATOR ASSESSMENT OF STUDENT MOTIVATIONAL LEVEL

Student Motivation Level	% of Students For Whom Data is Available*
1 = Highly motivated	31%
2	23%
3	19%
4	14%
5 = Highly unmotivated	13%
	100%

* Percentages are based on 80% of students for whom motivation level data was available.

Student Scores on Standardized German Test

The National Association of Teachers of German Level I test (Form B) was provided to all Missouri and North Dakota schools with students enrolled in German I by Satellite. The normative data against which students were measured was based on a pretest of students at the University of Colorado-Boulder at the end of their first semester of college-level German. Although this test is intended to measure achievement of secondary school students at the end of their first year of German language instruction, the degree of correlation between achievement expectations of one year of secondary instruction vs. one semester of college instruction may be questioned. Because there are no normative data available specifically for secondary students having taken this test, its value is seen not as a stand-alone measure of knowledge of German, but rather as a relative measure of achievement against which course input variables can be further assessed.

Preliminary data reveal a large variation in student test scores among as well as within districts. The Final Report will attempt to explain this variation in student achievement by analyzing the effect of coordinator practices, class format (i.e., taped/live), degree of integration of all course components, and other input variables on achievement test scores.